

Virginia City Hybrid Energy Center
Response to Data Request
Bruce Buckheit, Member, Virginia Air Pollution Control Board

Question (Page No. 10):

A shortage of electric supply can cause significant adverse economic impacts. More importantly, such a shortage could also cause significant health impacts, particularly among the elderly, if summer shortages cause air conditioning use to be curtailed. Please prepare a short evaluation of the impact on the schedule for completion of the project if any of the competing alternatives were selected. I assume that adopting several of the alternatives might delay completion of the project for several years. The most recent EIA/NERC projections for electricity demand and supply in the Region should also be provided so the Board can take these into account. Conservation programs can do much to lessen demand, but may take several years to implement. This factor may be incorporated in the EIA/NERC estimates. However, if it is not, please prepare a short document summarizing the estimates of government agencies, as well as the business, scientific and environmental communities as to the degree of conservation that can be accomplished by 2012-2015.

Response:

Conservation is an important priority for Dominion. Dominion has greatly intensified its conservation efforts. The company is now conducting a series of nine pilot programs that will lay the foundation for much-expanded conservation efforts in future years. These pilot projects include:

- Enrolling a total of 4,000 residential customers in four different energy-saving pilots. The pilots are designed to control air-conditioning during peak-demand times, inform consumers about their real-time energy consumption patterns, install programmable thermostats that allow customers to control their use of electricity, and to educate customers about the value of reducing energy use during peak-demand times.
- Providing free energy audits and energy efficiency kits to 250 existing residential customers and 50 small-commercial customers. In addition, 250 new homes [is this new homes or new residential customers?] will receive energy efficiency welcome kits that include CFL bulbs.
- Providing incentives to large-commercial, industrial and other non-residential customers to reduce load during periods of peak demand by using their generators to produce up to 100 megawatts of electricity. That is enough electricity to power

as many as 25,000 residences. This would be in addition to existing Dominion tariff-based options in which large commercial and industrial customers already reduce demand by 275 megawatts during peak-demand periods.

Conservation and demand-management will also be key components of the company's Integrated Resource Plan mandated by the 2008 General Assembly and signed by Governor Kaine. Dominion has partnered with the Home Depot to distribute 5 million compact fluorescent light bulbs (the 1 million milestone was achieved well ahead of schedule in 2008). Dominion has also made a free online energy calculator available on its website, dom.com.

It is very clear that PJM recognizes the urgent need for new generation to avert supply shortages. According to the U.S. Energy Information Administration, Virginia is the second largest importer of power behind California. PJM has estimated that peak demand in Dominion's service area will grow by almost 4,000 megawatts (2,000 megawatts of this are projected baseload demand) within 10 years— the equivalent of the electrical demand of 1 million new homes. This will further exacerbate what has been called "Virginia's energy gap," as Dominion's peak demand already exceeds its installed generating capacity by roughly 2,000 megawatts.

Dominion plans to meet this increased demand with a well balanced mix of peaking, intermediate and base load (such as coal and nuclear) capacity resources, in addition to aggressive conservation measures. This mix of assets is required to keep the Company's cost structures in balance and maintain affordable electricity in the Commonwealth. VCHEC is the cornerstone of Dominion's plan for providing additional base load capacity for the Commonwealth beginning in 2012. The facility is integral to meeting Virginia's future need for base load generation, capable of operating virtually continuously with low per-unit production costs.

VHEC is also essential to maintaining a balanced fuel mix for the Commonwealth's generating assets. If this balance is not maintained, electricity production may become over-reliant on natural gas, a development that will put pressure on households both through higher gas expenses and higher electric utility fuel rates. Dominion's plan to construct a diverse mix of facilities using natural gas, clean coal, and nuclear technologies will protect consumers and work to hold down prices.

The Virginia Energy Plan recognizes that conservation alone cannot meet Virginia's future energy needs and "a robust infrastructure is needed to deliver affordable, reliable energy supplies...Conservation and demand-control actions may delay the need for expansion, but they will not eliminate it. (*Virginia Energy Plan*, p. 78) The plan specifically references the Virginia City Hybrid Energy Center as one of the infrastructure measures that will help meet this growing demand. (*Virginia Energy Plan*, p. 83).